



STAB XXVI/WP.6
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SUB-COMMITTEE ON SUBDIVISION,
STABILITY AND LOAD LINES -
26th session
Agenda item 11

IMCO

MATTERS RELATED TO THE 1969 TONNAGE CONVENTION

Report of the Ad Hoc Group

1 GENERAL

An ad hoc working group was established at the request of the Sub-Committee to consider matters related to the 1969 Tonnage Convention. The group was attended by members from Belgium, France, Finland, Federal Republic of Germany, Greece, Italy, Liberia, the Netherlands, Norway, Sweden, the United Kingdom and the United States, as well as by an observer from the International Association of Classification Societies (IACS). Mr. I.A. Manum (Norway) was elected Chairman.

2 PAPERS CONSIDERED

The group considered submissions to the current session by Sweden (STAB XXVI/11), the Secretariat (STAB XXVI/11/1) and IACS (STAB XXVI/11/2) as well as MSC XLIV/17 by France, MSC XLIV/17/1 and Corr.1 by Sweden, MSC XLIV/WP.10 by the ad hoc group.

3 MSC XLIV/17 - SUBMITTED BY FRANCE, AND STAB XXVI/11/2 - SUBMITTED BY IACS

3.1 Introduction of the term "USM tons"

3.1.1 The working group considered proposals by France for the introduction of measurement units of "USM tons".

3.1.2 It was considered that the 1969 Tonnage Convention figures may introduce problems of understanding by users of tonnage (i.e. port authorities, etc.), but this was considered to be outside the mandate of the working group at this time but may be reconsidered later as necessary. The working group recognizes that the tonnage figure is being amended throughout IMCO conventions, codes and other documents from "tons gross tonnage" to "gross tonnage" (MSC XLIV/WP.10, Annex 2 refers).

3.2 Uniform calculation method

3.2.1 The group discussed at length the need for a uniform calculation method and agreed that it was not necessary to adopt a uniform method of calculation to be used by all measurement authorities but that basic guidelines for a minimum number of sections and waterlines should be provided.

3.2.2 However, the view was expressed by France that it is hoped that in the interest of the uniform application of regulations on tonnage measurement, IMCO will begin preparation of a manual on the application of the provisions of the 1969 Convention. Further, such a document would be precisely of great benefit, in particular to countries which have as yet no experience concerning the tonnage measurement of ships, and would, moreover, have the advantage of laying down uniform rules for measuring. In this way the objective of reciprocal acceptance of tonnage certificates issued by Contracting Governments would be achieved (cf. Article 11 of the Convention).

3.2.3 Most delegations expressed the view that an accuracy similar to that achieved for stability purposes is not necessary for tonnage but that a minimum level of accuracy should be established.

3.2.4 A proposal that the working group should seek the guidance of the Sub-Committee to establish whether calculation of volumes could vary dependent on tonnage or stability purposes was not supported by the majority of delegations.

3.2.5 The working group, in general, agreed that a minimal standard to be recommended to calculate convention tonnages is desirable and that the formal proposal of IACS (STAB XXVI/11/2) and the informal proposal presented by the Federal Republic of Germany during the session (shown at Annex 1) should be studied by the various Administrations.

3.2.6 It is considered that an intersessional meeting of the working group should be convened, preferably during October 1981, to consider the results of these comparison studies in order to arrive at acceptable guidelines as mentioned in 3.2.1 for the 1969 Tonnage Convention.

3.2.7 The working group recommends that additional interpretations as determined by IACS and other Administrations be forwarded to IMCO for distribution to delegates prior to the proposed intersessional meeting.

4 MSC XLIV/17/1 - SUBMITTED BY SWEDEN

4.1 Major conversions

4.1.1 The question was raised how to treat an existing ship undergoing major conversion starting before but ending after 18 July 1982.

4.1.2 After some discussion the working group agreed on the following interpretation of Article 3(2)(b):

- .1 In the case of major conversions (Article 3(2)(b)) the 1969 Tonnage Convention shall apply when the conversion is started on or after 18 July 1982.
- .2 In cases where several sister ships are to be substantially altered and the additional steel work is prefabricated before 18 July 1982 but work on the individual ship started on or after that date, the application of the 1969 Tonnage Convention in such cases should be left to individual Administrations who should bear in mind the circumstances of each case but at the same time resist any misuse of such prefabrication measures which might prevent the application of the 1969 Tonnage Convention to ships converted after 18 July 1982.

4.2 Application of the 1969 Convention provisions

4.2.1 The question was raised whether Article 14(1)(a) can be interpreted to mean a prohibition of the use of the provisions of the Convention for the calculation of tonnage for ships to which the Convention does not apply (e.g. ships less than 24 metres, ships not engaged in international voyages, ships of a non-Convention nation).

4.2.2 The group concurred with the view of Sweden that the provisions of the Convention may be used for ships not covered by the Convention.

4.3 Transfer of a ship from one flag to another

4.3.1 The questions were raised that when an existing ship, to which the 1969 Convention is not applicable, is transferred from one flag to another, will the current tonnage certificate cease to be valid under Article 10(2) of the Convention and will the new certificate to be issued to the ship be an International Tonnage Certificate (1969), since no tonnage certificates required by old regulations should be issued after the entry into force of the Convention.

4.3.2 From its discussions the group felt that the following interpretation is needed:

"The term "certificate" in Article 10(2) refers to the International Tonnage Certificate (1969) and existing ships should not be required to be measured under the 1969 Convention on change of flag but may be measured under national rules existing prior to the coming into force of the Convention."

5 MSC/CIRCULAR 254 .

5.1 Sweden proposed that the information used on the standard form when a ship is transferred from one Administration to another should be brought in line with the original intentions by amending paragraph 8 to read:

"8. When a tonnage certificate and a copy of the calculations of the tonnages are transmitted to another Government in accordance with Article 8(2) or 10(3) of the Convention, they should be accompanied by a standard form, a model of which is shown in the Appendix, showing the main particulars of the tonnage calculations for easy reference."

5.1.1 The working group supported this recommendation.

5.1.2 The group discussed the comment of the USSR in plenary to expand the information on the International Tonnage Certificate (1969) so as to facilitate inspection (Article 12) but noted that such action would require amending the Convention.

6 STAB XXVI/11 - SUBMITTED BY SWEDEN

6.1 Definition of upper deck

6.1.1 The definition of the upper deck was discussed together with the associated problem of deciding whether openings in the sides of the ship are closed "watertight". Depending upon whether the first or second deck is taken as the upper deck there may be considerable difference in the net tonnage of the ship due to the factor $(\frac{4d}{3D})^2$.

6.1.2 It was decided that the consideration of watertightness of these closures should be decided by the Administration noting that different interpretations could lead to varying net tonnage values on similar ships. The relevance of the net tonnage figure was discussed and whether organisations that use tonnage as a base for charges were moving towards the gross tonnage figure.

6.2 Stepped deck

6.2.1 The working group discussed the problem of defining the upper deck on e.g. Ro/Ro ships with a step in the upper deck in order to make room for the stern ramp. The group agreed on the following limitation of the size of such a step:

"Steps with a length of not more than 2.4 metres or which do not extend over the full breadth of the ship need not be taken into account when determining the line of the upper deck."

6.2.2 The working group was aware that such a definition may conflict with the Load Line Convention interpretations and agreed to request the Sub-Committee to consider the proposal.

6.3 Article 2(8) and Regulation 2 - Definitions

6.3.1 Having in mind Recommendation 3 of the 1969 Convention it was agreed that the Secretariat should be requested to check if common interpretations have been developed over the years with respect to terms derived from other IMCO Conventions, i.e. Length, Moulded Depth, Breadth, Watertight, Upper Deck, Freeboard Deck, Passengers, etc., and if so, to provide a list of any such interpretations. Since the number of passengers is a factor in determining net tonnage under the 1969 Convention, a more precise definition of what constitutes a passenger is of special relevance.

6.4 MSC/Circular 254 - Calculation of volumes listed on the standard form

In calculating the underdeck volumes, the working group recommended that volumes may be combined (e.g. underdeck/extended forecastle) and so identified on the standard form which accompanies the International Tonnage Certificate (1969) from one Administration to another upon transfer of a ship from one flag to another.

6.5 Requests for exchange of information

6.5.1 The working group agreed in principle that it might be useful to exchange information on computer programmes which are used to calculate tonnages and recommended countries wishing voluntarily to participate, to do so.

6.5.2 The working group agreed that any methods which are employed to establish the lines of a ship by exterior measurement might be forwarded to IMCO for circulation to Members.

7 The Sub-Committee is invited to approve the report of the working group in general and in particular to take action on the following:

- .1 to approve the interpretations dealt with in 4.1.2, 4.3.2 and 5.1;
- .2 to take note of the recommendations given in 6.4 and 6.5;
- .3 to approve the recommendation in 3.2.6 for constituting an inter-sessional working group of tonnage experts during October 1981 in view of the urgency in formulating suitable guidelines;
- .4 to especially consider the interpretation given in 6.2.1 and possibly approve; and
- .5 to request the Secretariat to list common interpretations as requested in 6.3.1.

ANNEX

A Gross Tonnage

A 1 Spaces to be measured for Gross Tonnage

A 1.1 The Gross Tonnage includes the following spaces:

Space below the tonnage deck with

hull up to the side of the upper deck

or its line of reference

camber of beam

appendages

spaces open to the sea to be excluded

superstructures

deck houses

hatchways

other spaces

A 1.2 The volumes of all spaces included in the gross tonnage are to be measured according to Regulation 6 (1).

Deck coverings in superstructures and deckhouses are not to be considered!

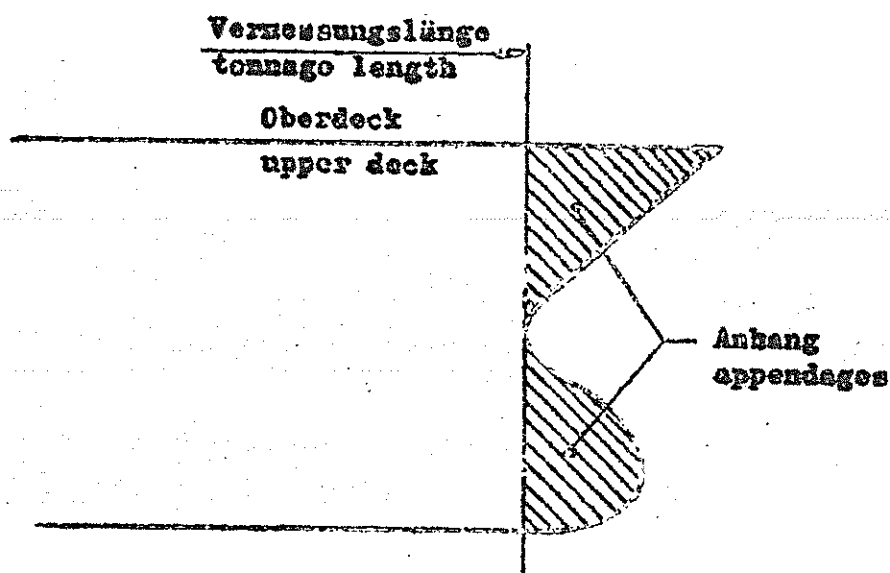
A 2 Upper Deck

The upper deck is determined in Regulation 2 (1).

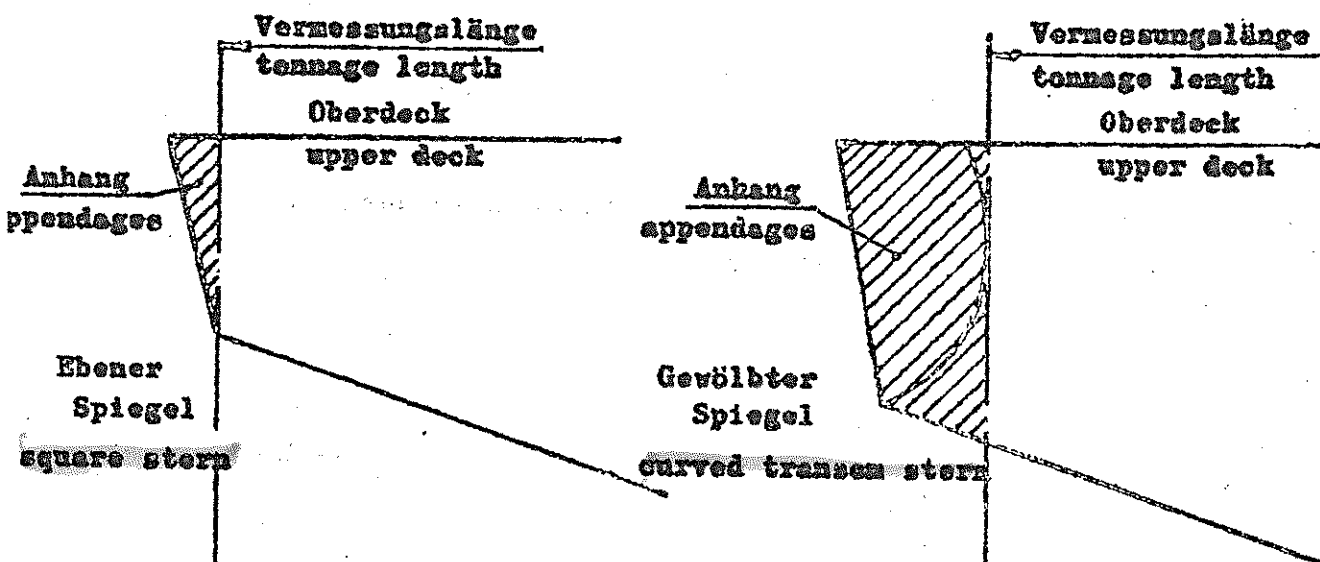
A 3 Tonnage Length

A 3.1 The tonnage length is the horizontal distance between two points, defined as follows:

forward: If there is an usual raked stem the point of intersection of the under side of the upper deck or its line of reference with the stem
or if there is an unusual raked stem - for instance a bulbous bow - the point of intersection with the vertical line of the shortest margin of a waterline.



aft: If there is an usual raked stern the point of intersection of the under side of the upper deck or its line of reference with the stern
or if there is a transom stern, the vertical line touching the foremost part of the transom stern contour.



- A 3.2 Local extensions or local cuttings are not to be considered when determining the tonnage length.

A 4 Division of the Tonnage Length

- A 4.1 The tonnage length is to be divided into a number of equal parts, to determine the position of the transverse sections as follows:

tonnage length m	number of equal parts	number of end parts which are to be subdivided	
		forward	aft
to 29,99	6	1	1
30,00 to 39,99	8	1	1
40,00 to 54,99	10	1	1
55,00 to 74,99	12	2	2
75,00 to 99,99	14	2	2
100,00 to 124,99	16	2	2
125,00 to 149,99	18	2	2
150,00 and more	20	2	2

The sections shall be numbered beginning with 0 from aft to fore; the sections with the half distance will be marked additionally with 1/2.

- A 4.2 If it is not possible to measure a section at its correct position, it should be measured as close thereto as possible.

A 5 Tonnage Depth

- A 5.1 The tonnage depth of each transverse section is the vertical distance between two points defined as follows:

at the bottom: The point of intersection of the innerside of the shellplating with the keel line if the ship is constructed of metal,

or the point of intersection of the outer surface of the hull with the keel line or keel rabbet, if the ship is constructed of other materials.

at the top: The point of intersection of the underside of the upper deck or its line of reference with side shell plating,

or in case of a round gunwale the point of intersection of the moulded lines of the underside of the upperdeck or its line of reference with side shell plating, the lines extending as though the gunwales were of angular design.

- A 5.2 If the rise of bottom is unusual a suitable bottom point is to be determined. Parts below this point (line) are to be ascertained separately as though they were appendages according to A 13.

A 6 Division of the tonnage depth

- A 6.1 The standard depth of all transverse sections is the arithmetical mean of all depth which result from dividing the tonnage length according to A 4.1. The transverse sections which will be marked additionally with 1/2 remain unconsidered.

The number of breadths resulting from the standard depth applies to all transverse sections of the ship.

- A 6.2 The tonnage depth of each transverse section is to be divided as follows:

Standard depth m	number of parts
up to 4,99	5
5,00 up to 7,99	7
8,00 up to 12,99	9
13,00 up to 19,99	11
20,00 and more	13

The lowest part is to be subdivided.

The breadths shall be numbered beginning with 0 from the bottom. The breadth at half interval is to be marked with 1/2.

A 7 Area of the transverse sections.

A 7.1 The area of the transverse sections is to ascertain with the breadths and the depths according to the 1st Simpson rule.

A 7.2 If there are unusual curved frames (e. g. shine-type frames), the transverse section is to ascertain in parts.

If there are straight frames the separate parts are to be ascertained in simple geometrical areas (triangle, rectangle, trapezium).

A 7.3 In ships with round gunwales the highest breadth shall be measured first to the point of intersection of the moulded lines of the upperdeck and the side shell plating, the lines extending as though the gunwales were of angular design.

A 7.4 An area curve is to be drawn with the transverse sections, if necessary with the auxiliary transverse sections according to A 4.2.

Should there be a round gunwale or a camber of beam these parts are to be disregarded when drawing the area curve.

A 8 Volume of the hull up to the upperdeck or its line of reference

A 8.1 The volume is to ascertain with the length and the transverse sections according to the 1st Simpson rule.

In case it was not possible to determine a transverse section at its right position, its correct area is to be taken from the area curve according to A 7.4.

A 8.2 In case of a round gunwale the volume of the hull according to A 8.1 is to be reduced by that volume which is outside of the rounded gunwale.

The length of a round gunwale is to be divided into an even number of equal parts so that the intervals are not greater than the intervals of the divided tonnage length according to A 4.1.

Parts at the end are not to be subdivided.

In each omitted area the depth is to be divided into two parts, and there are 3 breadths to be measured up to the line of reference of the shell plating. (A 5.1 and A 7.3). The lowest breadth will be 0 - margining the shell plating - the upper one reaches to the margining point of the deck plating. With these breadths the omitting areas of each side of the ship are to be ascertained according to the 1st Simpson rule. The omitting volume is to be calculated for each side of the ship with its length and its transverse areas according to the 1st Simpson rule.

A 9 Volume of the camber of beam.

A 9.1 If the camber of beam extends over the total length of the upper deck or its line of reference, the calculation of the volume is to be made with the division of the tonnage length according to A 4.1. The additional subdivision of the end parts shall be omitted.

A 9.2 If there is only a partial camber of beam (e. g. only at the free weather deck outside of the erections) the length of it is to be divided into an even number of equal parts so that the intervals are not greater than the intervals of the divided tonnage length according to A 4.1. Parts at the end are not to be subdivided.

A 9.3 Each transverse area of a camber of beam is to be ascertained as follows: - according to its geometrical shape -

if the section is parabolic or similar

$$F = \frac{2}{3} \cdot B \cdot h$$

B = base breadth of the camber of beam

h = top height of the camber of beam

if the section is triangular

$$F = \frac{1}{2} \cdot B \cdot h$$

if the section is trapeziform

$$F = \frac{B + b}{2} \cdot h$$

B = base breadth of the camber of beam

b = upper breadth of the camber of beam